**DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

# WELDING INSPECTION REPORT

**Resident Engineer:** Casey, William
**Address:** 333 Burma Road
**City:** Oakland, CA 94607

**Report No:** WIR-026463
**Date Inspected:** 04-Oct-2011

**Project Name:** SAS Superstructure
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV
**Contractor:** American Bridge/Fluor Enterprises, a JV

**OSM Arrival Time:** 700
**OSM Departure Time:** 1730
**Location:** Job Site

**CWI Name:** Salvador Merino and John Paglieri

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|---|---|---|---|---|---|---|---|
| **CWI Present:** | ☑ Yes | ☐ No | | | | | |
| **Inspected CWI report:** | ☐ Yes | ☑ No | ☐ N/A | **Rod Oven in Use:** | ☑ Yes | ☐ No | ☐ N/A |
| **Electrode to specification:** | ☑ Yes | ☐ No | ☐ N/A | **Weld Procedures Followed:** | ☑ Yes | ☐ No | ☐ N/A |
| **Qualified Welders:** | ☑ Yes | ☐ No | ☐ N/A | **Verified Joint Fit-up:** | ☐ Yes | ☐ No | ☑ N/A |
| **Approved Drawings:** | ☑ Yes | ☐ No | ☐ N/A | **Approved WPS:** | ☑ Yes | ☐ No | ☐ N/A |
| | | | | **Delayed / Cancelled:** | ☐ Yes | ☑ No | ☐ N/A |

**Bridge No:** 34-0006
**Component:** SAS Tower

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base Elevation Electro Slag Welding (ESW) T-joint #W-045 location 'H' (face B), QA randomly ABF welder Richard Garcia continuing to perform 3G Shielded Metal Arc Welding (SMAW) cover welding repair due to excessive grinding on the visually noted overlap. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repair Rev. 2. The excavation was previously tested using Magnetic Particle Testing (MT) by ABF QC Salvador Merino and randomly verified by this QA with positive result. The repair excavation and the adjacent base metal were preheated to more than 300°F using the propylene gas torch. During the shift, ABF QC Salvador Merino was noted monitoring the welder. Measured welding parameter during welding was 140 amperes on a 1/8" diameter E7018H4R electrode. During the shift, weld cover repair at ESW location 'H' elevation 9 to 13 meters was completed and the welder has moved to elevation 0 to 9 meters of the same ESW location.

At Tower Base Elevation Electro Slag Welding (ESW) 60-70 transition butt joint N-044 location 'A' (face B) and T-joint N-045 location 'E' (face B) 0 to 9 meters elevation, QA randomly ABF welder Jeremy Dolman continuing to perform 3G SMAW cover welding repair due to excessive grinding on the visually noted overlap. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repair Rev. 2. The

excavation was previously tested using Magnetic Particle Testing (MT) by ABF QC John Pagliero and randomly verified by this QA with positive result. The repair location and the adjacent base metal were preheated to more than 300°F using the propylene gas torch. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 120 amperes on a 1/8" diameter E7018H4R electrode. At the end of the shift, repair welding at elevation 9 to 13 meters location mentioned above was still continuing and should remain tomorrow.

At Tower Base Electro Slag Welding (ESW) 60-70 transition butt joint #S-044 location 'C' (face B), ABF welder Rory Hogan was noted removing the remnants of the welded temporary strong back attachments. The welder was noted using carbon air arc gouging and followed by a disc grinder. The welder was noted working from 0 to 9 meters elevation. At the end of the shift all four strong back remnants were removed and smoothly ground.

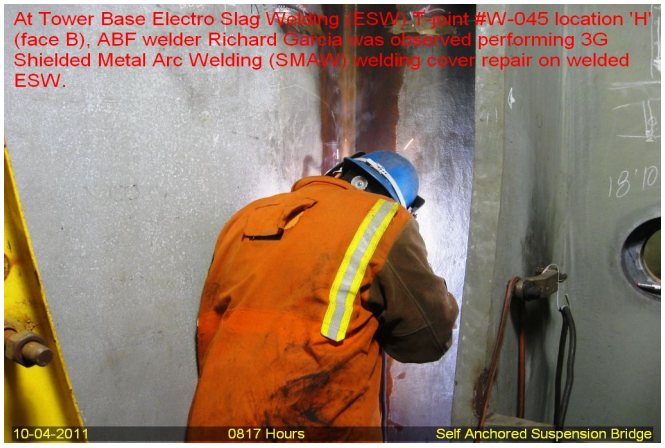
At Tower Base Electro Slag Welding (ESW) 80-100 transition butt joint location 'P' (face A), this QA observed ABF QC John Pagliero performed VT/MT on welded ESW. During the QC inspection, QC has found the completely welded ESW in compliance to the contract requirements except that four of the bolt holes close to the weld were plug welded. QA has brought this to the attention of QC Supervisor Bonifacio Daquinag who also informed this QA that this has also been brought to the attention of ABF QC Bill Norris and ABF Jim Bowers and awaiting response from them. This QA performed VT/MT verification and obtained same positive result except on the plug welded bolt holes.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the ESW welding of one (1) ESW location at 0 to 13 meters elevation. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

| ESW Location | Remarks |
|---|---|
| 1. N-043 location 'P' (face A) | VT/MT deemed acceptable. |


# WELDING INSPECTION REPORT

*( Continued Page 3 of 3 )*


**Summary of Conversations:**

During the QC inspection, QC has found the completely welded ESW in compliance to the contract requirements except that four of the bolt holes close to the weld were plug welded. QA has brought this to the attention of QC Supervisor Bonifacio Daquinag who also informed this QA that this has also been brought to the attention of ABF QC Bill Norris and ABF Jim Bowers and awaiting response from them.

**Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

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|---|---|---|
| **Inspected By:** | Lizardo,Joselito | Quality Assurance Inspector |
| **Reviewed By:** | Levell,Bill | QA Reviewer |